is the duty of philosophers to go on trying to make them, with which, no doubt, both pragmatists and absolutists would agree. Indeed, "in spite of everything, this is presumably the real standpoint of all of us."

Lessons on Elementary Hygiene and Sanitation, with Special Reference to the Tropics. By W. T. Prout. Second edition, 1909. Pp. xx+159. (London: J. and A. Churchill, 1908.) Price 2*s.* 6*d.* net.

WE are not surprised that this little book has passed into a second edition. The plan of it is well conceived and the matter excellently written. It tells in the simplest language, with many appropriate comparisons which drive home the meaning, the structure of the body and its functions, how health may be safeguarded, and how disease is propagated. Disease germs, their mode of spread and entrance into the body, are explained, and the salient points with regard to the principal infective diseases are adequately considered. Being avowedly written for residents in the tropics, and in particular for those in Freetown, West Africa, diseases like malaria, cholera, plague, sleeping sickness, leprosy, &c., receive considerable attention, but otherwise the details given are equally applicable to the hygiene of any district.

Chapters on water supply and its purification, the dwelling and sewage removal, respiration and ventilation, diet and clothing are included, and render the book a complete popular exposition of the principles of hygiene. It is also well and sufficiently illustrated. R. T. H.

Aëroplane Patents. By Robt. M. Neilson. Pp. x+91. (London: Constable and Co., Ltd., 1910.) Price 4*s.* 6*d.* net.

THIS is a useful book, which may be recommended to all who are interested in the subject of aëronautics. It begins with thirteen pages of sound advice to inventors, and continues with a list and description of the various patents relating to heavier-than-air flying machines. The list does not profess to be complete or exhaustive, but it contains all the important patents and most of the minor ones are mentioned. The descriptions given are sufficient to explain the objects and claims made in each case.

The period covered by the list extends from 1860 to 1910, and perhaps the most interesting matter which it brings to our notice is the enormous increase in the number of patents relating to aëronautics taken out since 1907. From 1860 to 1906 the average number of patents was about six per year. In 1906 the number was 29; in 1907, 42; in 1908, 115; in 1909, 759; and in 1910 (for eight months), 412.

That but a small percentage of the patents should be of value is only what might be expected, but the total number is evidence of the attention which is being given to the subject.

Stray Leaves on Travel, Sport, Animals, and Kindred Subjects. By J. C. Walter. Pp. xii+295. (London: Kegan Paul, Trench, Trübner and Co., Ltd., 1910.) Price 5*s.* net.

THE ten chapters making up this book are for the most part extracts from the author's diaries written among the scenes described, and papers prepared for meetings of a natural history society.

The conversational style adopted makes reading easy, and the persevering reader will incidentally accumulate much useful information about the countries in which the author has travelled, and become acquainted with the habits of many animals which have aroused the author's interest. Mr. Walter's wanderings have by no means been confined to his own country; we have chapters dealing with his excursions in Egypt and Palestine, France, Switzerland, and Italy respectively. On each of his numerous journeys Mr. Walter was an industrious diarist.

1200 *Mining Examination Questions.* Arranged and compiled by G. L. Kerr. Pp. xxvii+111. (London: Crosby Lockwood and Son, 1911.) Price 2*s.* 6*d.* net.

THESE questions have been selected principally from the papers set at the examinations held in the different districts of Britain for managers' and under-managers' certificates. The volume also contains copies of ventilation plans set at these examinations, and suggestions to candidates who desire to qualify for mine managers' certificates.

To some of the questions answers have been given, but to the majority of them this has intentionally not been done. The compiler explains that the correct answer for any given question will vary somewhat according to the formula used, and in mining unfortunately no uniform set of formulæ has yet been accepted.

Chez les Français. Edited by H. Carter. With Exercises, by C. F. Shearson. Pp. vii+171+vii. (London: A. and C. Black, 1910.) Price 2*s.*

THIS well-selected collection of passages in French, from writers of recognised literary merit, dealing with France and French customs, should prove useful in classes where some progress has been made in the study of the language. The book should be particularly serviceable in connection with elementary geographical teaching.

LETTERS TO THE EDITOR.

[*The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts intended for this or any other part of* NATURE. *No notice is taken of anonymous communications.*]

A Biological Inquiry into the Nature of Melanism in *Amphidasis betularia*, Linn.

IT is well known to entomologists that dark varieties of several species of moths have recently become increasingly common in many localities within the British Isles, and also that the dark forms are appearing in fresh districts.

It is very desirable and important to know whether the colour of these dark races of moths is protective or whether it has some other significance.

Before, however, any definite explanation of these phenomena can be attempted, it is necessary to have as complete a knowledge as possible of all the circumstances which are likely to have any influence on the species known to exhibit this melanic change. One significant point in connection with my inquiry concerns the resting habits of the moths which are subject to this melanic variation. For example, it is important to know whether the light-coloured moths (*i.e.* the peppered form of *Amphidasis betularia*) generally rest during the day on lichen-covered trunks of trees or any other light-coloured object, and also whether the dark insects (as the form Doubledayaria of *A. betularia*) select black tree trunks or other dark-coloured objects on which to rest.

Information of this nature can, however, be obtained only by the cooperation of very many entomologists, for the chance of obtaining sufficient evidence from the observations of one or two persons is very remote. I should therefore be extremely grateful if entomologists would assist me in collecting information regarding the resting habits of any of the undermentioned species belonging to the Geometræ which may have come under their notice:—

Amphidasis betularia (Peppered Moth).
Amphidasis prodromaria (Oak Beauty).
Odontoptera bidentata (Scalloped Hazel).
Phigalia pilosaria (Pale Brindled Beauty).
Boarmia repandata (Mottled Beauty).
Boarmia abietaria (Satin Carpet).
Boarmia rhomboidaria (Willow Beauty).
Gnophos obscurata (Annulet).
Hybernia progemmaria (Dotted Border).

Scheme of particulars :—

(1) State, if possible, the number of specimens of each variety (light or dark, &c.) of the above species that have been observed at rest, together with particulars as to the object upon which they were found, and also say whether they were conspicuous or well protected by their colour.

(2) State, if possible, whether the species is abundant, fairly common, or rare in the locality to which reference of the observation is made.

(3) If it is not possible to answer the foregoing questions, any other information concerning observations of a general character will be very acceptable.

All help received will be fully acknowledged on publication; and I would like here to express (as it has not yet been possible to publish anything upon the subject) my great indebtedness to those entomologists who have previously sent valuable information concerning the distribution, &c., of the various forms of *A. betularia* in their own particular localities in compliance with a former request.

The University, Manchester. H. S. LEIGH.

Protection from "White Ants" and other Pests.

IN a recent number of NATURE there was a note on the subject of ants in general and white ants in particular (they are not ants, but that does not matter, as they are "so called"), in which it is said that the Admiralty has decided in favour of "blue oil." Blue oil is the residue left in the distillation of mineral oils after the isolation of kerosine (called petroleum in England) and paraffin. I therefore venture to give you my experience in regard to the same and as to some other cognate matters.

Some twenty years ago I bought a cottage at Mittagong, about eighty miles from Sydney; it was furnished, and when I went there for a night I heard a continual rasping sound whilst in bed, and next morning, on examining the place, I found it was infested with white ants. They had eaten the pine lining in two rooms, as well as the uprights of a door.

I was then connected with a kerosine company, and immediately got a quantity of blue oil, which I had sprinkled all round the foundation of the house with a watering-can. The result is that the lining is in the same condition that it was twenty years ago. This is not an isolated instance, because during that time I have had much experience of "white ants," and have always found that they cannot work if they are cut off from connection with the ground, from which they get moisture, which is necessary for them, and they do not seem able to get through ground saturated with blue oil.

There is another matter to which I may refer in this letter. When I bought my present home, in 1882, I found it full of weeds and ants. I have got rid of both by extermination, and with the latter of aphis and almost entirely of scale insects. Of the former I have not seen one for the past fourteen or fifteen years. My first experience was with black aphis, by which the leaves of a nectarine tree were all curled up, whilst ants were continually running up and down the stem. I had read Sir John Lubbock's account of ants carrying the eggs of aphis to their nests, and I therefore shaved off the rough bark and chalked the stem for a foot or so, and the result was that the ants soon ceased to visit the tree, and we had a healthy tree and a fair crop of fruit. I may say that, so far as my observation goes, ants cannot climb up a chalked stem or post, as the chalk comes off with their feet and they fall down. I am not sure that this is the correct interpretation, as I have seen that if a broad chalk line is drawn round a meat-dish standing on a shelf the ants seldom get across it, and if they do it is only by some place being missed in chalking. They seem to leave a trace of formic acid behind them which guides the followers, and, combining with the calcium of the chalk, deprives them of their clue.

As to ants in general, I may say that after trying various ways to get rid of them I have come to an effectual method, that is, to find their nests and pour down each hole two ounces of a solution of cyanide of potassium. Two ounces per gallon is the strength I have used, but it might be weaker. The ants are not all killed by the first dose, for some are out foraging, and one cannot be certain of killing all the queens, but by giving them a dose once a week or a fortnight it is possible to get rid of them.

There is another matter I may mention. Some thirty-nine or forty years ago I observed an old shingle-roofed cottage at Maitland. It had two dormer windows, the sides of which had been painted white with white lead. The whole of the roof was rotten with fungoid growth except below the dormers, where the paint had been washed down by the rain, leaving a white streak, and there the shingles were nearly as good as they were when put on. It was therefore evident that white lead was inimical to fungoid vegetation.

When I came to my present home I had outside venetian blinds, and the "ladders" got quite rotten in three years, evidently by fungoid growths. In getting new ladders I steeped them in a solution of acetate of lead (6 ounces to the gallon), and they lasted for thirteen years, being by that time worn out by friction in moving them up and down. Acetate of lead is soon converted into white lead by atmospheric carbon dioxide. I have used the same process with a sheet surrounding a shower bath which in six months was black with "mould," and now it is in as good condition as it was ten years ago.

WILL. A. DIXON.

97 Pitt Street, Sydney, October 31.

January Meteors.

THE most noteworthy of the January meteor showers is that of the Quadrantids. Owing to the great northerly declination of the radiant, these meteors can be observed at any hour of the night, and being long-pathed they may, if fairly numerous, present quite a striking display. In 1911 the maximum will fall on the night of January 3, computed particulars of which and of other subsequent meteor showers are here summarised.

Epoch January 3, 11h. (G.M.T.), fourteenth order of magnitude. Principal maximum January 3, 12h. 30m.; secondary maximum January 3, 16h. 30m.

Epoch January 4, 13h. 30m., seventeenth order of magnitude. Principal maximum January 3, 12h. 40m.; secondary maximum January 3, 6h. 30m.

Epoch January 6, 22h., approximately sixth order of magnitude. Principal maximum January 5, 14h. 10m.; secondary maximum January 5, 2h. 45m.

Epoch January 6, 2h. 30m., fifteenth order of magnitude. Principal maximum January 7, 9h. 45m.; secondary maximum January 7, 7h.

Epoch January 11, 4h. 40m., eighteenth order of magnitude. Principal maximum January 12, 23h.; secondary maxima January 11, 4h. 40m., and January 12, 13h. 15m.

Epoch January 12, 19h., seventeenth order of magnitude. Principal maximum January 14, 9h. 20m.; secondary maximum January 14, 16h. 30m.

Epoch January 19, 17h., fifth order of magnitude. Principal maximum January 18, 7h. 30m.; secondary maximum January 19, 2h. 15m.

Epoch January 21, 8h. 30m., twelfth order of magnitude. Principal maximum January 22, 23h. 30m.; secondary maximum January 22, 18h. 30m.

The intensity of a meteoric epoch is inversely as its order of magnitude. Thus the heaviest maximum occurs on January 18, as it belongs to an epoch of the fifth order of magnitude, which is the highest of the month. Owing, however, to the times at which its maxima occur, and also to other circumstances, this epoch will not furnish so many meteors as the first two of the month, which have their principal maxima shortly after midnight on January 3.

Dublin. JOHN R. HENRY.